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<110> Solomon, Aaron
       Morimoto, Richard
       Beitel, Greg

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Gln Ile Ala Lys Ala Val Met Asp Lys Phe Gln Thr Gln Ile Leu Pro
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Gln Gln Met Arg Lys Ala Gln Ala Ala Pro Ser Ser Val Phe Gln Gln
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Met Gln Gln Arg Glu Leu Gln Glu Glu Asp Glu Asp Asp Asp Asp Leu
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Ser Pro Arg Leu Lys Glu Leu Leu Gln Asn Ala Glu Val Gln Ser Leu
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Lys Thr Ile Arg Ala Leu Pro Arg Leu Phe Gly Ala Pro Thr Ala Lys
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Ile Pro Pro Leu Phe Phe Glu Pro Lys Gly Arg His Thr Arg Leu Arg
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-4-

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Thr Ile Pro His His His Leu Asn Gln His Asn Asn Pro Tyr His Pro
        35   40   45

Met His Pro His His Gln Leu Pro His Met Gln Gln Leu Pro Gln Pro
    50   55   60

Leu Leu Asn Leu Asn Met Thr Thr Leu Thr Ser Ser Gly Ser Ser Val
65   70   75   80

Ala Ser Ser Ile Gly Gly Gly Ala Gln Cys Ser Pro Cys Ala Ser Gly
                85   90   95

Ser Ser Thr Ala Ala Thr Asn Ser Ser Gln Gln Gln Gln Thr Val Gly
            100   105   110

Gln Met Leu Ala Ala Ser Val Pro Cys Ser Ser Ser Gly Met Thr Leu
        115   120   125

Gly Met Ser Leu Asn Leu Ser Gln Gly Gly Gly Pro Met Pro Ala Lys
    130   135   140

Lys Lys Arg Cys Arg Lys Lys Pro Thr Asp Gln Leu Ala Gln Lys Lys
145   150   155   160

Pro Asn Pro Trp Gly Glu Glu Ser Tyr Ser Asp Ile Ile Ala Lys Ala
            165   170   175

Leu Glu Ser Ala Pro Asp Gly Arg Leu Lys Leu Asn Glu Ile Tyr Gln
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Trp Phe Ser Asp Asn Ile Pro Tyr Phe Gly Glu Arg Ser Ser Pro Glu
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Trp Val Ile Asn Pro Asp Ala Lys Pro Gly Arg Asn Pro Arg Arg Thr
            245             250             255

Arg Glu Arg Ser Asn Thr Ile Glu Thr Thr Thr Lys Ala Gln Leu Glu
        260             265             270

Lys Ser Arg Arg Gly Ala Lys Lys Arg Ile Lys Glu Arg Ala Leu Met
        275             280             285

Gly Ser Leu His Ser Thr Leu Asn Gly Asn Ser Ile Ala Gly Ser Ile
    290             295             300

Gln Thr Ile Ser His Asp Leu Tyr Asp Asp Asp Ser Met Gln Gly Ala
305             310             315                     320

Phe Asp Asn Val Pro Ser Ser Phe Arg Pro Arg Thr Gln Ser Asn Leu
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Ser Ile Pro Gly Ser Ser Ser Arg Val Ser Pro Ala Ile Gly Ser Asp
            340             345             350

Ile Tyr Asp Asp Leu Glu Phe Pro Ser Trp Val Gly Glu Ser Val Pro
        355             360             365

Ala Ile Pro Ser Asp Ile Val Asp Arg Thr Asp Gln Met Arg Ile Asp
    370             375             380

Ala Thr Thr His Ile Gly Gly Val Gln Ile Lys Gln Glu Ser Lys Pro
385             390             395                     400

Ile Lys Thr Glu Pro Ile Ala Pro Pro Pro Ser Tyr His Glu Leu Asn
            405             410             415

Ser Val Arg Gly Ser Cys Ala Gln Asn Pro Leu Leu Arg Asn Pro Ile
            420             425             430

Val Pro Ser Thr Asn Phe Lys Pro Met Pro Leu Pro Gly Ala Tyr Gly
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Asn Tyr Gln Asn Gly Gly Ile Thr Pro Ile Asn Trp Leu Ser Thr Ser
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Leu Thr Leu Pro Asp Gln Pro Leu Met Asp Thr Met Asp Val Asp Ala
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Leu Ile Arg His Glu Leu Ser Gln Ala Gly Gly Gln His Ile His Phe
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Asp Leu
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Ser Leu Leu Leu Glu Asn Glu Gly Val Ala Asp Ile Ile Thr Met Cys
            35                  40                  45


Pro Phe Gly Glu Val Ile Ser Val Val Phe Pro Trp Phe Leu Ala Asn
        50                  55                  60


Val Arg Thr Ser Leu Glu Ile Lys Leu Ser Asp Phe Lys His Gln Leu
65                  70                  75                  80


Phe Glu Leu Ile Ala Pro Met Lys Trp Gly Thr Tyr Ser Val Lys Pro
                85                  90                  95


Gln Asp Tyr Val Phe Arg Gln Leu Asn Asn Phe Gly Glu Ile Glu Val
                100                 105                 110


Ile Phe Asn Asp Asp Gln Pro Leu Ser Lys Leu Glu Leu His Gly Thr
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Phe Pro Met Leu Phe Leu Tyr Gln Pro Asp Gly Ile Asn Arg Asp Lys
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Trp Ala Arg Thr Lys Lys Thr Cys Leu Thr Arg Gly Leu Glu Gly Thr
        180             185              190

Ser His Tyr Ala Phe Pro Glu Glu Gln Tyr Leu Cys Val Gly Glu Ser
        195             200              205

Cys Pro Lys Asp Leu Glu Ser Lys Val Lys Ala Ala Lys Leu Ser Tyr
    210             215             220

Gln Met Phe Trp Arg Lys Arg Lys Ala Glu Ile Asn Gly Val Cys Glu
225             230             235                     240

Lys Met Met Lys Ile Gln Ile Glu Phe Asn Pro Asn Glu Thr Pro Lys
            245             250              255

Ser Leu Leu His Thr Phe Leu Tyr Glu Met Arg Lys Leu Asp Val Tyr
            260             265              270

Asp Thr Asp Asp Pro Ala Asp Glu Gly Trp Phe Leu Gln Leu Ala Gly
        275             280              285

Arg Thr Thr Phe Val Thr Asn Pro Asp Val Lys Leu Thr Ser Tyr Asp
    290             295             300

Gly Val Arg Ser Glu Leu Glu Ser Tyr Arg Cys Pro Gly Phe Val Val
305             310             315                     320

Arg Arg Gln Ser Leu Val Leu Lys Asp Tyr Cys Arg Pro Lys Pro Leu
            325             330              335

Tyr Glu Pro His Tyr Val Arg Ala His Glu Arg Lys Leu Ala Leu Asp
            340             345              350

Val Leu Ser Val Ser Ile Asp Ser Thr Pro Lys Gln Ser Lys Asn Ser
        355             360             365

Asp Met Val Met Thr Asp Phe Arg Pro Thr Ala Ser Leu Lys Gln Val
    370             375             380

Ser Leu Trp Asp Leu Asp Ala Asn Leu Met Ile Arg Pro Val Asn Ile
385             390             395                     400
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Ser Gly Phe Asp Phe Pro Ala Asp Val Asp Met Tyr Val Arg Ile Glu
            405             410             415

Phe Ser Val Tyr Val Gly Thr Leu Thr Leu Ala Ser Lys Ser Thr Thr
            420             425             430

Lys Val Asn Ala Gln Phe Ala Lys Trp Asn Lys Glu Met Tyr Thr Phe
            435             440             445

Asp Leu Tyr Met Lys Asp Met Pro Pro Ser Ala Val Leu Ser Ile Arg
    450             455             460

Val Leu Tyr Gly Lys Val Lys Leu Lys Ser Glu Glu Phe Glu Val Gly
465             470             475             480

Trp Val Asn Met Ser Leu Thr Asp Trp Arg Asp Glu Leu Arg Gln Gly
            485             490             495

Gln Phe Leu Phe His Leu Trp Ala Pro Glu Pro Thr Ala Asn Arg Ser
            500             505             510

Arg Ile Gly Glu Asn Gly Ala Arg Ile Gly Thr Asn Ala Ala Val Thr
            515             520             525

Ile Glu Ile Ser Ser Tyr Gly Gly Arg Val Arg Met Pro Ser Gln Gly
    530             535             540

Gln Tyr Thr Tyr Leu Val Lys His Arg Ser Thr Trp Thr Glu Thr Leu
545             550             555             560

Asn Ile Met Gly Asp Asp Tyr Glu Ser Cys Ile Arg Asp Pro Gly Tyr
            565             570             575

Lys Lys Leu Gln Met Leu Val Lys Lys His Glu Ser Gly Ile Val Leu
            580             585             590

Glu Glu Asp Glu Gln Arg His Val Trp Met Trp Arg Arg Tyr Ile Gln
            595             600             605

Lys Gln Glu Pro Asp Leu Leu Ile Val Leu Ser Glu Leu Ala Phe Val
    610             615             620
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-13-

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Trp Thr Asp Arg Glu Asn Phe Ser Glu Leu Tyr Val Met Leu Glu Lys
625                 630             635                 640

Trp Lys Pro Pro Ser Val Ala Ala Ala Leu Thr Leu Leu Gly Lys Arg
            645             650                 655

Cys Thr Asp Arg Val Ile Arg Lys Phe Ala Val Glu Lys Leu Asn Glu
        660             665             670

Gln Leu Ser Pro Val Thr Phe His Leu Phe Ile Leu Pro Leu Ile Gln
        675             680             685

Ala Leu Lys Tyr Glu Pro Arg Ala Gln Ser Glu Val Gly Met Met Leu
    690             695             700

Leu Thr Arg Ala Leu Cys Asp Tyr Arg Ile Gly His Arg Leu Phe Trp
705             710             715                 720

Leu Leu Arg Ala Glu Ile Ala Arg Leu Arg Asp Cys Asp Leu Lys Ser
            725             730             735

Glu Glu Tyr Arg Arg Ile Ser Leu Leu Met Glu Ala Tyr Leu Arg Gly
            740             745             750

Asn Glu Glu His Ile Lys Ile Ile Thr Arg Gln Val Asp Met Val Asp
        755             760             765

Glu Leu Thr Arg Ile Ser Thr Leu Val Lys Gly Met Pro Lys Asp Val
    770             775             780

Ala Thr Met Lys Leu Arg Asp Glu Leu Arg Ser Ile Ser His Lys Met
785             790             795                 800

Glu Asn Met Asp Ser Pro Leu Asp Pro Val Tyr Lys Leu Gly Glu Met
            805             810             815

Ile Ile Asp Lys Ala Ile Val Leu Gly Ser Ala Lys Arg Pro Leu Met
            820             825             830

Leu His Trp Lys Asn Lys Asn Pro Lys Ser Asp Leu His Leu Pro Phe
        835             840             845

Cys Ala Met Ile Phe Lys Asn Gly Asp Asp Leu Arg Gln Asp Met Leu
    850             855             860

Val Leu Gln Val Leu Glu Val Met Asp Asn Ile Trp Lys Ala Ala Asn
865             870             875                 880
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-14-

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Ile Asp Cys Cys Leu Asn Pro Tyr Ala·Val Leu Pro Met Gly Glu Met
            885                  890                  895

Ile Gly Ile Ile Glu Val Val Pro Asn Cys Lys Thr Ile Phe Glu Ile
            900                  905                  910

Gln Val Gly Thr Gly Phe Met Asn Thr Ala Val Arg Ser Ile Asp Pro
    ·     915                  920                  925

Ser Phe Met Asn Lys Trp Ile Arg Lys Gln Cys Gly Ile Glu Asp Glu
    930                  935                  940

Lys Lys Lys Ser Lys Lys Asp Ser Thr Lys Asn Pro Ile Glu Lys Lys
945                  950                  955                  960

Ile Asp Asn Thr Gln Ala Met Lys Lys Tyr Phe Glu Ser Val Asp Arg
                965                  970                  975

Phe Leu Tyr Ser Cys Val Gly Tyr Ser Val Ala Thr Tyr Ile Met Gly
            980                  985                  990

Ile Lys Asp Arg His Ser Asp Asn Leu Met Leu Thr Glu Asp Gly Lys
            995                  1000                 1005

Tyr Phe His Ile Asp Phe Gly His Ile Leu Gly His Gly Lys Thr
    1010                 1015                 1020

Lys Leu Gly Ile Gln Arg Asp Arg Gln Pro Phe Ile Leu Thr Glu
    1025                 1030                 1035

His Phe Met Thr Val Ile Arg Ser Gly Lys Ser Val Asp Gly Asn
    1040                 1045                 1050

Ser His Glu Leu Gln Lys Phe Lys Thr Leu Cys Val Glu Ala Tyr
    1055                 1060                 1065

Glu Val Met Trp Asn Asn Arg Asp Leu Phe Val Ser Leu Phe Thr
    1070                 1075                 1080

Leu Met Leu Gly Met Glu Leu Pro Glu Leu Ser Thr Lys Ala Asp
    1085                 1090                 1095
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Leu Asp His Leu Lys Lys Thr Leu Phe Cys Asn Gly Glu Ser Lys
    1100                1105           .        1110

Glu Glu Ala Arg Lys Phe Phe Ala Gly Ile Tyr Glu Glu Ala Phe
    1115            1120                1125

Asn Gly Ser Trp Ser Thr Lys Thr Asn Trp Leu Phe His Ala Val
    1130            1135                1140

Lys His Tyr
    1145
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